# PROCEDURES FOR THE VERIFICATION OF CRITICAL DIMENSIONS OF HYDROMETERS BULBS AASHTO T 88

#### A. PURPOSE

This method is intended to provide instruction for verifying the critical dimensions of hydrometer bulb and composite correction for hydrometer bulb.

### **B. APPARATUS REQUIRED**

- 1. Calibrated thermometer (0 °C 100 °C) readable to 0.1 °C
- 2. Calibrated calipers readable to 0.001 inch (.025 mm)
- 3. One (1) 1000 ml sedimentation cylinder
- 4. Distilled or demineralized water
- 5. Type 152H hydrometer bulb

#### C. PROCEDURE

- 1. Measure the maximum bulb diameter to the nearest 0.001 inch (.025 mm) and record results.
- 2. Measure the scale length from 0-50 g/L to the nearest 0.001 inch (.025 mm) and record results.
- 3. Check scale gradation and record.
- 4. Fill 1000 ml sedimentation cylinder with distilled or demineralized water to the 1000 ml line. Adjust temperature of the water to 20 °C. Carefully place hydrometer in the water and record results.

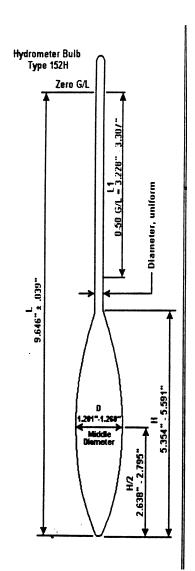
## D. TOLERANCE

Hydrometers shall meet the diameter, scale length, scale gradation and hydrometer reading requirements as specified in T 88, "Particle Size of Analysis of Soils."

5-93 Rev. 01 4-98

# EQUIPMENT VERIFICATION RECORD

Verified By:	Date:	
Equipment: Hydrometer Bulb Type 152H	Location (Lab): Soil Mechanics Lab	
Certification No.:	Verification Frequency: 24 months	
Previous Verification Date:	Next Due Date:	
Verification Equipment Used: Calibrated calipers (readable to 0.001 in. [.025 mm]), SN:		
Calibrated thermometer (0-100°C), SN:	Distilled or demineralized water	
Verification Procedure: (In-house) OMR-CVP-11 / AASHTO T 88		



## HYDROMETER BULD MEASUREMENTS

L =	in. (mm)
$L_1 =$	in. (mm)
D =	in. (mm)
H =	in. (mm)
H/2 =	in. (mm)

# STEM DIAMETER UNIFORM YES NO

## HYDROMETER BULB CALIBRATION

## **TYPE 152H**

Reads 0.0 in 20°C (distilled or demineralized water)		NO
Bulb diameter in inches (1.0201-1.260 in. [30.5-30.6 mm])	YES	NO
Scale Length for 0 to 50 grams per liter (3.228-3.307 in. [82-84 mm])		NO
Scale graduations from -5 to 60 grams per liter		NO
Hydrometer Bulb accepted for usage	YES	NO

5-93 Rev. 01 4-98